

Appl. No. 10/694,555

Reply to Office Action dated January 18, 2006

IN THE CLAIMS:

The following listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

Claim 1 (previously amended). A radio communication system comprising:

a primary station,

a plurality of secondary stations,

a communication channel between the primary station and a secondary station, the

5 communication channel comprising an uplink control channel and a downlink control channel for the transmission of control information between the primary and secondary stations, and

a data channel for the transmission of data packets,

each of the primary and secondary stations having traffic reduction means for reducing traffic in the uplink and downlink control channels, and control means for activating the traffic

10 reduction means,

the control means activating the traffic reduction means after a first data transmission on the data channel to cause the uplink and downlink control channels to enter into a dormant state during which control information is transmitted on the uplink and downlink control channels,

15 the traffic reduction means being arranged to cause transmission of a reduced amount of control information on the uplink and downlink control channels while the uplink and downlink control channels are in the dormant state than the amount of control information transmitted on the uplink and downlink control channels during transmission of data packets on the data channel.

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Claim 2 (previously amended). A system as claimed in claim 1, wherein the control means activates the traffic reduction means after a predetermined period has passed without transmission of a data packet on the data channel after the first data transmission.

Claim 3 (previously amended). A system as claimed in claim 1, wherein the control means activates the traffic reduction means immediately after the first data transmission when the control means determines that no additional data transmission is currently available for transmission.

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Claim 4 (previously amended). A system as claimed in claim 1, wherein the traffic reduction means are arranged to transmit control information on the uplink and downlink control channels in allocated time slots and operate to transmit control information in one out of every N available slots when the uplink and downlink control channels are in the dormant state, where N

5 is an integer greater than 1.

Claim 5 (previously amended). A system as claimed in claim 1, wherein the traffic reduction means are arranged to interrupt transmission of the uplink and downlink control channels after a time period has elapsed without transmission of a data packet on the data channel while the uplink and downlink control channels are in the dormant state.

Claim 6 (previously amended). A primary station for use in a radio communication system having a communication channel between the primary station and a secondary station, the communication channel comprising an uplink and a downlink control channel for the transmission of control information between the primary station and the secondary station, and a

5 data channel for the transmission of data packets, the primary station comprising:

traffic reduction means for reducing traffic in the downlink control channel, and
control means for activating the traffic reduction means,

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the control means activating the traffic reduction means after a first data transmission on the data channel to cause the uplink and downlink control channels to enter into a dormant state during which control information is transmitted on the uplink and downlink control channels, the traffic reduction means being arranged to cause transmission of a reduced amount of control information on the uplink and downlink control channels while the uplink and downlink control channels are in the dormant state than the amount of control information transmitted on the uplink and downlink control channels during transmission of data packets on the data channel.

Claim 7 (previously amended). A primary station as claimed in claim 6, wherein the control means activates the traffic reduction means after a predetermined period has passed without transmission of a data packet on the data channel after the first data transmission.

Claim 8 (previously amended). A primary station as claimed in claim 6, wherein the traffic reduction means are arranged to transmit control information on the uplink and downlink control channels in allocated time slots and operate to transmit control information in one out of every N available slots when the uplink and downlink control channels are in the dormant state, where N is an integer greater than 1.

Claim 9 (previously amended). A secondary station for use in a radio communication system having a communication channel between the secondary station and a primary station, the communication channel comprising an uplink and a downlink control channel for the transmission of control information between the primary station and the secondary station, and a data channel for the transmission of data packets, the secondary station comprising: traffic reduction means for reducing traffic in the uplink control channel, and control means for activating the traffic reduction means,

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the control means activating the traffic reduction means after a first data transmission on the data channel to cause the uplink and downlink control channels to enter into a dormant state during which control information is transmitted on the uplink and downlink control channels, the traffic reduction means being arranged to cause transmission of a reduced amount of control information on the uplink and downlink control channels while the uplink and downlink control channels are in the dormant state than the amount of control information transmitted on the uplink and downlink control channels during transmission of data packets on the data channel.

Claim 10 (previously amended). A secondary station as claimed in claim 9, wherein the control means activates the traffic reduction means after a predetermined period has passed without transmission of a data packet on the data channel after the first data transmission.

Claim 11 (previously amended). A secondary station as claimed in claim 9, wherein the traffic reduction means are arranged to transmit control information in allocated time slots and operate to transmit control information in one out of every N available slots when the uplink and downlink control channels are in the dormant state, where N is an integer greater than 1.

Claim 12 (previously amended). A method of operating a radio communication system comprising a primary station and a plurality of secondary stations, the system having a communication channel between the primary station and a secondary station, the communication channel comprising an uplink and a downlink control channel for the transmission of control information between the primary station and the secondary station, and a data channel for the transmission of data packets, the method comprising:

entering the uplink and downlink control channel into a dormant state after a first data transmission on the data channel;

transmitting control information on the uplink and downlink control channels during transmission of data packets; and

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transmitting an amount of control information on the uplink and downlink control channels while the uplink and downlink control channels are in the dormant state which is less than the amount of control information transmitted on the uplink and downlink control channels during transmission of data packets on the data channel.

Claim 13 (previously amended). A method as claimed in claim 12, wherein the uplink and downlink control channels enter into the dormant state and the reduction in transmission of control information on the uplink and downlink control channels is initiated after a predetermined period has passed without transmission of a data packet on the data channel after
5 the first data transmission.

Claim 14 (previously amended). A method as claimed in claim 12, wherein control information is transmitted in allocated time slots, and the reduction in the amount of control information transmitted while the uplink and downlink control channels are in the dormant state compared to that transmitted during transmission of data packets is realized by transmitting
5 control information in one out of every N available slots while the uplink and downlink control channels are in the dormant state, where N is an integer greater than 1.

Claim 15 (previously presented). A system as claimed in claim 2, wherein the traffic reduction means are arranged to transmit control information on the uplink and downlink control channels in allocated time slots and operate to transmit control information in one out of every N available slots when the uplink and downlink control channels are in the dormant state, where N
5 is an integer greater than 1.

Claim 16 (previously presented). A system as claimed in claim 3, wherein the traffic reduction means are arranged to transmit control information on the uplink and downlink control channels in allocated time slots and operate to transmit control information in one out of every N

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5 available slots when the uplink and downlink control channels are in the dormant state, where N is an integer greater than 1.

Claim 17 (previously presented). A primary station as claimed in claim 7, wherein the traffic reduction means are arranged to transmit control information on the uplink and downlink control channels in allocated time slots and operate to transmit control information in one out of every N available slots when the uplink and downlink control channels are in the dormant state, where N is an integer greater than 1.

5 Claim 18 (previously presented). A secondary station as claimed in claim 10, wherein the traffic reduction means are arranged to transmit control information in allocated time slots and operate to transmit control information in one out of every N available slots when the uplink and downlink control channels are in the dormant state, where N is an integer greater than 1.

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Claim 19 (previously presented). A method as claimed in claim 13, wherein control information is transmitted in allocated time slots, and the reduction in the amount of control information transmitted while the uplink and downlink control channels are in the dormant state compared to that transmitted during transmission of data packets is realized by transmitting control information in one out of every N available slots while the uplink and downlink control channels are in the dormant state, where N is an integer greater than 1.

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Claim 20 (previously presented). A method as claimed in claim 12, wherein the uplink and downlink control channels enter into the dormant state and the reduction in transmission of control information on the uplink and downlink control channels is initiated immediately after the first data transmission when the control means determines that no additional data transmission is currently available for transmission.

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